Whose poverty really matters when deciding aid volumes?

Abstract

This study assesses the relevance of poverty in the determination of aid volumes. In particular, it investigates whether donors' decisions about aid volumes are more reactive to changes in domestic poverty than to those in the poverty of prospective aid recipients. This is particularly relevant at times of economic crisis, which may seriously affect the proportion of donors' budgets that is devoted to foreign assistance.

The present study is based on the experience of a sample of members of the Development Assistance Committee of the Organisation for Economic Co-operation and Development (OECD-DAC). It finds that faster and greater changes in the volume of foreign aid occurred in response to changes in poverty in the donor countries rather than in potential recipient countries. Furthermore, donors' attitude towards poverty in low-income countries differs from the one towards poverty in middle-income countries.

Keywords: foreign aid; poverty; aid effort; donor decision-making

JEL Classification: F35; I30

1. INTRODUCTION AND LITERATURE REVIEW

The literature on official foreign aid spreads along two main branches: one addresses the question of whether foreign aid is effective at promoting economic growth and welfare, whereas the other studies the determinants of its allocation and budget volume. Poverty plays a central role in the analysis in both cases. The former branch has highlighted how poverty-based aid allocation is a precondition for its effectiveness.[1] As part of the latter branch, an understanding of foreign aid decision-making trends can enlighten the policy debate and contribute to increase the effectiveness of aid in economic growth and poverty reduction. This is particularly valuable when foreign aid budgets are constrained.

Some literature has abundantly stressed the influence of donors' domestic politics on aid policy (Fleck and Kilby, 2001, 2006; Irwin, 2000; Lancaster, 2007; Milner and Tingley, 2010; Noel and Therien, 1995; Therien and Noel, 2000). However, little has been written on what determines the volume of aid. This study aims at shading more light on this issue, by comparing the relevance of poverty conditions in prospective recipient countries versus a strictly domestic decision-making framework in boosting or restraining donors' foreign assistance.

It has been highlighted how a domestic pro-poor tendency seems to enhance donor generosity (Round and Odedokun, 2004). Furthermore, some recent analysis has drawn attention to a possible long-term relationship between poverty rates in donor countries and the amount of overseas assistance that they grant (De Matteis, 2013), which has led to the contention that a 'foreign aid Keynesianism' policy may have been in operation since the 1960s.[2]

Positions on foreign aid Keynesianism are diverse. Foreign aid critics may assert that foreign assistance spending in itself may contribute to fuel domestic poverty in donor countries. This claim may argue for some mutually exclusive results of resource allocation, with the allocation of resources abroad draining productive domestic resources into non-productive aid initiatives. Conversely, an optimistic perspective on the contribution that foreign aid can play in favour of

[1] See De Matteis (2013b) for an overview of the literature on this topic.

[2] This expression recalls the concept of 'military Keynesianism' (Henderson, 1998), according to which increased military spending may contribute to decrease poverty, suggesting its potential as a countercyclical instrument. While according to Griffin et al. (1982), military Keynesianism posits elite manipulation of defense spending as a countercyclical tool, Henderson (1998) finds that only focused spending on military personnel may decrease poverty, suggesting its potential as a countercyclical instrument. Likewise, the expression can be used with reference to foreign aid. This supports the argument that aid is not pro-cyclical from the donor's perspective (Pallage et al., 2001).

poverty reduction in donor countries is framed in the economic argument that sees development as an investment that paves the way for opening new markets in the long term (Jarrett, 2011; Hugie, 2011).

Following from the above, in order to shed light on the relationship between foreign aid and poverty, this paper compares the relevance of donors' and recipients' poverty in defining the donors' aid effort. The discussion below is organized as follows: section 2 outlines the methodology and data used for this analysis; section 3 presents and discusses the empirical results; and section 4 summarizes the findings and concludes.

2. METHODOLOGY AND DATA

2.1 Methodology

This study makes use of time series analysis. In order to study the interdependence of time series between foreign aid and poverty we refer to a linear relationship of the type:

$$y_t = \theta_1 + \theta_2 x_t + u_t \tag{1}$$

where:

y_t	represents foreign aid provided by donor *i* at time *t*;
x_t	represents domestic poverty experienced by either donor *i* at time *t* or by recipient *j* at time *t* ;
u_t	represents the error term;
θ_1 and θ_2	represent the coefficients to be estimated.

Once the condition of stationarity of the series and their co-integration are verified, the Error-Correction Mechanism (ECM) is adopted:

$$\Delta y_t = \alpha_1 + \alpha_2 \Delta x_t + \alpha_3 \left(y - \theta_1 - \theta_2 x \right)_{t-1} + u_t \tag{2}$$

where Δ indicates the change in value between one period and the previous one (*t* and *t-1*).

Within the framework considered above, this model can be interpreted by considering how donors adjust their foreign aid budget from one period to the next in response to changes in either domestic or recipient poverty (in this case indicated by Δx_t), as well as to the previous disequilibrium between the allocated foreign aid budget and the size of either domestic or recipient poverty. From this perspective, the coefficient α_2 measures the short-run effect in the process of adjustment and the coefficient α_3 measures the speed of adjustment in response to identified discrepancies accrued during the previous period. The error correction term $\left(y - \theta_1 - \theta_2 x\right)_{t-1}$ can be interpreted as the deviation from the long-term equilibrium between foreign assistance and poverty, where the coefficient θ_2 measures the long-run effect in the process of adjustment.

2.2 The data

This study makes use of data on foreign assistance provided by a sample of donor countries and data on poverty in the same group of donor countries and in the combined category of low- and middle-income recipient countries. The data cover the three decades from 1980 to 2010; the sample of donor countries comprises 21 members of the DAC group,[3] and the group of low- and middle-income recipients is composed of 75 countries.[4]

For the purposes of this study, donor commitment to foreign assistance is preferable to disbursement as the former most accurately reflects the original donor intent.[5] However, for a comprehensive perspective we employ OECD data on both total net official development aid commitment and disbursement, expressed in 2010 constant US dollars.

[3] Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the UK and the US.

[4] Albania, Algeria, Argentina, Armenia, Azerbaijan, Bangladesh, Bolivia, Botswana, Brazil, Burkina Faso, Burundi, Cambodia, Cameroon, Central African Republic, Chile, China, Colombia, Costa Rica, Cote d'Ivoire, Croatia, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, Gambia, Georgia, Ghana, Guatemala, Guinea, Guinea Bissau, Guyana, Honduras, India, Iran, Jamaica, Jordan, Kazakhstan, Kenya, Kyrgyz Republic, Lao, Lesotho, Madagascar, Malawi, Malaysia, Mali, Mauritania, Mexico, Moldova, Morocco, Mozambique, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Panama, Paraguay, Peru, Philippines, Senegal, South Africa, Sri Lanka, Swaziland, Tajikistan, Tanzania, Thailand, Tunisia, Turkey, Uganda, Uruguay, Venezuela, Vietnam, Yemen, Zambia.

[5] Despite this important distinction, supply-side models of foreign assistance often use data on disbursements. This is understandable when it is necessary to take the recipient's absorption capacity into account.

The data available on poverty are rather scanty. To optimize the use of the available information, various measures of poverty have been used in this study and, wherever feasible, data from different sources have been combined. Poverty lines based on 40%, 50%, and 60% of current median income after taxes and transfers have been used as measures of poverty in the donor countries. The OECD dataset provides the main source of these data, complemented by data from Eurostat and the US Census.[6] Data about poverty in low- and middle-income countries were sourced through the World Bank World Development Indicators. In addition to the above, under the consideration that poverty adjusts slowly to underlying factors, missing values in the poverty dataset have been partly imputed through linear interpolation.[7]

It is important to consider how different measures of poverty provide different perspectives on its evolution over time. This is particularly relevant when comparing different contexts. For instance, while poverty rates – i.e. the share of the population below a poverty line – and poverty gaps – i.e. a measure of how poor the poor are with reference to a poverty line – in low-income countries were generally fairly stable until they began to decrease around the year 2000, the number of poor people continuously increased due to the increasing size of overall population. The experience of middle-income countries over the three decades considered here is instead characterized by decreasing trends in all the poverty measures used in this study despite the increasing size of their overall population. Finally, in the donor countries poverty rates and the poverty gap have remained fairly stable, with mild increases recorded in the number of poor people over the three decades due to both the low poverty rate and the low demographic growth rate.

3. FINDINGS AND DISCUSSION

De Matteis (2013) assesses the existence of foreign aid Keynesianism by testing for the presence and sign of a relationship between the evolution of poverty in donor countries and the foreign aid that they grant and for the direction of causality. The same approach has been replicated here. In addition, for comparative purposes, this approach is also followed here to test for the presence and sign of any relationship between donors' aid and poverty in the developing world. The results are arranged in Tables 1 and 2 below, focusing on commitments and disbursements respectively. In

[6] Data from different sources have been combined only with regard to 60% poverty rates, while all other cases make use of data from OECD.
[7] Interpolation has been applied only in the presence of a clear trend, and the gaps filled are never longer than five years.

each table the first part refers to the number of poor people, the second to poverty rate and the third one to poverty gap.

Given the small size of foreign assistance budgets in comparison to government expenditure on domestic welfare, the modest resources directed into foreign assistance are unlikely to have any drastic impact on donors' domestic poverty, and so this option is ignored here. Likewise, the focus here is not on the possible effects of aid on recipient countries' poverty, but rather on the opposite direction of causality. In other words, while – contrary to the case of donors' poverty – aid may be considered to have an impact on recipients' poverty, this eventual relationship is not properly analysed here.

Tables 1 and 2 below report only significant values of θ_2, α_2 and α_3 for each form of relationship between poverty and aid series that satisfy the condition of stationarity and are found to be cointegrated. Therefore, missing values identify either the absence of cointegration or the insignificance of the coefficients.

The number of missing values is higher in Table 2 and coefficient values are generally higher in Table 1. Both points suggest that the relationship between poverty and aid is stronger when dealing with commitments than with disbursements. This supports the consideration above, as the former seems to reflect the donors' intent better.

Another general consideration that helps to define the link between poverty and aid refers to the different long- and short-term reactions of aid volume to changes in poverty. In all cases where the values of both θ_2 and α_2 are significant the absolute value of the latter is higher, hinting at a stronger poverty-aid relationship in the short run. This applies to both commitments and disbursements, as well as to both donors' and global poverty.

Table 1 Relationship between poverty and aid commitment*

	donor domestic												*low- & middle-income*											
poverty line	40%				50%				60%				2$ Low				2$ Middle				1.25$ Low				1.25 Middle			
	θ_2	α_2	α_3	c'	θ_2	α_2	α_3	c'	θ_2	α_2	α_3	c'	θ_2	α_2	α_3	c'	θ_2	α_2	α_3	c'	θ_2	α_2	α_3	c'	θ_2	α_2	α_3	c'
Number of poor																												
Australia	1.33	2.28	1.26	⇔	1.32		1.05	⇔	2.95	19.01	1.15	⇔	0.72		0.76	←	-2.42		1.03	←					-1.00		0.99	←
Austria									2.33		0.46		1.35		0.55						1.45		0.53		-1.15		0.49	→
Belgium	-1.17	-1.65	1.79	⇔													-3.84	-6.20	0.54	⇔					-1.60		0.60	←
Canada																	-0.96		0.54	→								
Denmark					-0.98		0.78	⇔					0.99		0.98	⇔					1.16		1.08	⇔	-0.71		0.54	←
Finland																												
France	0.60		0.62	←									0.40		0.47	→	-1.34		0.66						-0.56		0.60	→
Germany									1.03		0.42	→													-1.00		0.42	←
Greece													3.99		1.08	⇔												
Ireland																												
Italy													-1.16		0.41						-1.41		0.44	←				
Japan					1.03		1.12	⇔	1.40		1.15	⇔	0.84		1.06						0.95		1.05		-0.66		0.71	
Netherland													0.92		0.82		-1.96		0.76	⇔	0.88		0.74		-0.97		0.93	←
New Zeland					1.22		0.67	⇔	1.42		0.60	⇔	1.45		0.62	←	-3.46	-5.38	0.52	←					-1.63		1.09	←
Norway	0.86		0.71	⇔	2.50		0.46	⇔	3.40			→					-3.15		0.45	→					-1.60		0.91	←
Portugal													3.36		0.84	←					6.20		0.91	←	-1.31		0.60	→
Spain	4.13				5.61		0.68	⇔	5.48		0.56	←	8.26		0.68	←					12.62		0.36	←				
Sweden	0.73		0.79	←	0.71		0.73	←	0.81		0.68	←	1.22		0.52	⇔	-2.77		0.59	←					-1.33		0.81	←
Switzerland									2.04		1.11		1.36		1.24	←	-2.42	-8.37	1.00	⇔	1.38		1.04		-1.33		1.28	⇔
United Kingdom																												
United States of America	3.08		0.58	→													-3.13		0.51	←								
Poverty rate																												
Australia	0.30	0.44	1.19	⇔	0.18		1.13	⇔	0.79	1.26	1.19	⇔	-0.07		1.15	←	-0.02		0.86	←	-0.04		1.09	←	-0.02		0.81	←
Austria													-0.06		0.41	→	-0.02		0.56		-0.04		0.41	→	-0.02		0.53	⇔
Belgium	-0.24	-0.35	2.02	⇔	-0.43		1.47	⇔					-0.11		0.51	⇔	-0.03		0.50	←	-0.07	-0.08	0.56	⇔	-0.03		0.44	⇔
Canada													-0.03		0.51	⇔					-0.02		0.54	⇔				
Denmark					-0.21		0.93	←									-0.02		0.68	←					-0.02		0.80	←
Finland																												
France									-0.11		0.62	⇔	-0.04		0.64	←	-0.01		0.55	→	-0.02		0.62	←	-0.01		0.51	
Germany									0.08		0.47	→	-0.05		0.44	←												
Greece																												
Ireland																												
Italy																												
Japan					0.09		1.10	⇔	0.09		1.13	⇔	-0.03		0.55		-0.01		0.85		-0.02		0.54		-0.01		0.97	
Netherland										-0.21	0.54	⇔	-0.06		0.83	←	-0.02		0.94	←	-0.04		0.82	←	-0.02		0.89	←
New Zeland					0.21		0.63	⇔					-0.10		0.55	→	-0.03		0.90	←	-0.06	-0.10	0.65		-0.03		0.76	←
Norway	0.35	0.66	0.72	⇔	0.39			⇔					-0.10		0.53	→	-0.03		0.80	←	-0.06		0.55	⇔	-0.03		0.66	
Portugal																	-0.03		0.70	→	-0.04		0.63	→	-0.04		0.67	←
Spain	0.90				0.66		0.73	⇔	0.45		0.59	←													-0.10	0.23	0.58	←
Sweden	0.34		0.76	←	0.15		0.73	←	0.08		0.68	←	-0.08		0.58	⇔	-0.02		0.82	←	-0.05		0.56	⇔	-0.02		0.62	
Switzerland									0.17		0.99		-0.07		1.00		-0.03		1.40	⇔	-0.04		0.99		-0.03		1.34	⇔
United Kingdom																					-0.08		0.47	←				
United States of America													-0.08		0.45	←					-0.05		0.47	←				
Poverty gap																												
Australia	-0.03		1.07	⇔					0.27	0.41	1.01	⇔	-0.06		1.07	←	-0.02		0.82	←	-0.08		1.01	←	-0.03		0.76	←
Austria													-0.05		0.40	→	-0.03		0.52	←					-0.05		0.47	⇔
Belgium	-0.03	-0.06	1.45	⇔	-0.04	-0.05	0.77	←	-0.07	-0.11	2.04	⇔	-0.10	-0.14	0.55	⇔	-0.04		0.44	⇔	-0.12		0.54	⇔	-0.05		0.34	→
Canada													-0.02		0.55	⇔					-0.03		0.58	⇔				
Denmark					0.05		0.66	⇔									-0.03		0.79	←					-0.04		0.93	←
Finland	0.22		0.44	←																								
France													-0.03		0.63	←	-0.01		0.51		-0.04		0.63		-0.02		0.49	
Germany																									-0.68		0.42	←
Greece																												
Ireland					0.11		0.05	→																				
Italy	-0.12		1.11	⇔					-0.09		0.88	⇔																
Japan													-0.02		0.54		-0.02		0.99						-0.03		1.03	←
Netherland					-0.04		0.87	⇔					-0.06		0.81	←	-0.03		0.88	←	-0.06		0.79	←	-0.04		0.83	
New Zeland													-0.09	-0.16	0.62		-0.04		0.76	←	-0.11	-0.20	0.58		-0.06		0.60	←
Norway					0.07		0.58	⇔	0.12	0.19	0.74	⇔	-0.09	-0.11	0.52	⇔	-0.04		0.67		-0.10	-0.13	0.47		-0.06		0.50	
Portugal													-0.06		0.63	→	-0.06		0.67		-0.07		0.66	→	-0.10		0.66	←
Spain	0.04																								-0.27		0.57	⇔
Sweden													-0.07		0.56	⇔	-0.04		0.63		-0.08		0.53	⇔	-0.05		0.52	
Switzerland													-0.07		0.98		-0.04		1.35	←	-0.08	-0.22	0.94		-0.06		1.26	←
United Kingdom													-0.13		0.47	←					-0.15		0.50	⇔				
United States of America									0.34			←	-0.08		0.49	←					-0.10		0.51	←				

* Only coefficients with significance above 0.1 are reported

c': Direction of Granger causality

Source: Author's analysis of data from OECD, Eurostat, US Census

Table 2 Relationship between poverty and aid disbursement*

	donor domestic												*low- & middle-income*											
poverty line	40%				50%				60%				2$ Low				2$ Middle				1.25$ Low				1.25 Middle			
	θ_2	α_2	α_3	c'	θ_2	α_2	α_3	c'	θ_2	α_2	α_3	c'	θ_2	α_2	α_3	c'	θ_2	α_2	α_3	c'	θ_2	α_2	α_3	c'	θ_2	α_2	α_3	c'
Number of poor																												
Australia	0.99	1.06	0.76	⇔	1.14		0.65	⇔	2.45	7.75	0.94	⇔					-2.01		0.92	⇔					-0.85		0.83	⇔
Austria																	-4.95	-7.87	0.54	⇐					-2.16		0.62	⇐
Belgium	-0.90	-1.54	1.62	⇔	-3.85		1.10	⇔									-2.97	-4.52	0.76	⇐					-1.14		0.48	⇐
Canada																	-1.02		0.38									
Denmark																					1.53	1.36	0.46	⇒				
Finland																												
France																												
Germany																												
Greece													3.99		1.08	⇔												
Ireland																												
Italy		10.39	1.26	⇔	-1.50	3.34	0.92	⇔																				
Japan													0.32	6.63	0.60	⇐					0.48	3.46	0.66	⇔				
Netherland													0.84		0.43	⇔									-0.85		0.55	⇔
New Zeland					0.86		0.30	⇒																	-1.18		0.60	⇐
Norway	0.62		0.56	⇒													-2.19		0.26	⇔					-1.27		0.52	⇐
Portugal										5.91	0.77	⇔	2.31		0.97	⇐					3.22		1.05	⇐	-1.11		0.78	⇒
Spain													4.31		0.50	⇐												
Sweden																	-2.82		0.27	⇔								
Switzerland													1.52		0.53	⇐	-2.17		0.23	⇒					-1.37		0.34	⇔
United Kingdom																												
United States of America									0.34		0.88	⇐					-3.29		0.54	⇐								
Poverty rate																												
Australia	0.21			⇔	0.15		0.64	⇔	0.56			⇔	-0.06		1.15	⇔	-0.01		0.65	⇔	-0.03		1.01	⇔	-0.01		0.46	⇒
Austria													-0.13		0.52		-0.04		0.52	⇐	-0.09	-0.14	0.62	⇐	-0.04		0.48	⇐
Belgium	-0.19	-0.37	1.80	⇔	-0.34		1.47	⇔					-0.08		0.57	⇐					-0.05		0.70	⇐				
Canada													-0.03		0.38													
Denmark													-0.04		0.00						-0.02			⇒				
Finland																												
France																												
Germany																												
Greece																												
Ireland																												
Italy		1.37	1.22	⇔	-0.13	0.27	0.92	⇔																				
Japan																												
Netherland																	-0.02		0.77	⇔					-0.02		0.66	⇔
New Zeland					0.15		0.27	⇒									-0.02		0.43	⇐								
Norway	0.25		0.56	⇒									-0.07		0.28	⇐	-0.02		0.75	⇐	-0.04		0.27	⇐	-0.02		0.75	
Portugal										0.28	0.84	⇔					-0.03		0.83	⇐					-0.03		0.91	⇐
Spain																												
Sweden									0.08		0.31	⇐	-0.08								-0.05		0.29	⇐				
Switzerland													-0.07		0.20	⇔	-0.03		0.52	⇔	-0.04		0.21	⇔	-0.03		0.58	⇐
United Kingdom																	-0.03		0.45	⇐								
United States of America													-0.09		0.42	⇐					-0.05		0.48	⇐				
Poverty gap																												
Australia	-0.03	-0.22	0.64	⇐					0.17			⇔	-0.05		1.00	⇔	-0.02		0.47	⇒	-0.06		0.90	⇔				
Austria													-0.13	-0.23	0.61	⇐	-0.05		0.49	⇐	-0.16	-0.31	0.64	⇐	-0.07		0.42	⇐
Belgium	-0.02	-0.07	1.73	⇔	-0.03	-0.04	1.17	⇔	-0.05	-0.12	1.87	⇔	-0.08		0.70	⇐					-0.09	-0.11	0.74	⇔				
Canada																												
Denmark													-0.03															
Finland	0.17		0.37	⇔					0.20	0.25	0.40	⇐																
France																												
Germany																												
Greece																												
Ireland																												
Italy	-0.10		1.35	⇔					-0.08		1.43	⇔																
Japan																												
Netherland																	-0.02		0.61	⇔					-0.03		0.43	⇔
New Zeland					-0.04			⇒																				
Norway									0.09		0.55	⇒	-0.06		0.27	⇐	-0.04		0.79	⇐	-0.07		0.25	⇐	-0.06		0.55	⇐
Portugal					0.02	0.08	1.23	⇐	0.02	0.09	1.22	⇐					-0.05		0.90	⇐					-0.08		0.95	
Spain																	-0.11		0.34	⇐					-0.17		0.36	⇔
Sweden													-0.08		0.29	⇐					-0.09		0.27	⇐				
Switzerland													-0.06		0.21	⇔	-0.04		0.62	⇐	-0.07		0.21	⇔	-0.06		0.59	⇐
United Kingdom					0.09		0.46	⇐																				
United States of America													-0.08		0.50	⇐					-0.10		0.54	⇐				

* Only coefficients with significance above 0.1 are reported

c': Direction of Granger causality

Source: Author's analysis of data from OECD, Eurostat, US Census

In terms of individual donors' behaviour, in line with previous findings[8] the results of this analysis partly support the existence of aid Keynesianism. This is the case for approximately half of the sample of donors considered, where there is both: a) a significant and positive relationship between the evolution of domestic poverty and foreign aid, as identified by θ_2 and α_2; and b) a clear direction of causality leading from poverty to aid, as verified though the Granger causality test. With reference to aid commitment, this leaves Australia, Finland, Japan, New Zealand, Norway, Spain, Sweden and Switzerland as evidence cases, corresponding to almost half of the initial sample. The case of the United States is controversial, since the direction of causality seems to provide contradictory signals. Expanding to include disbursements would bring in the United States, Portugal and the United Kingdom, although this would raise questions about the case of New Zealand. For the other donor countries considered here the analysis does not show the existence of a significant poverty-aid relationship, reports a negative poverty-aid relationship, or highlights a direction of causality from aid to poverty.

Table 3 provides a summary view of the main direction of causality of the poverty-aid relationship by donor. Since this classification is based on several indicators, in very few cases, due to contradictory results, individual donors are associated with multiple options. In the case of poverty in low- and middle-income countries a unilateral poverty-to-aid link appears to be prevalent. However, as already seen with regard to donors' domestic poverty, even in this case the relationship becomes weaker and less clear as we move along the decision-making and implementation process. In fact, when shifting from commitment to disbursement, evidence of the unidirectional poverty-to-aid direction of causality decreases, while there is a substantial increase in the group of donors for which no significant relationship between aid and poverty can be identified. This confirms the general tendency, mentioned above, towards a stronger poverty-aid relationship in the short run.

[8] See De Matteis, 2013

Table 3 Granger-causality of the relationship between foreign aid and poverty

Poverty in donor countries

Not cointegrated or insignificant	Only / Mainly bidirectional **Poverty ↔ Aid**	Only / Mainly unidirectional **Poverty → Aid**	Only / Mainly unidirectional **Aid → Poverty**
Commitment			
Austria	Australia	Denmark	Germany
Canada	Belgium	Finland	Ireland
Greece	France	Sweden	USA
Portugal	Italy	USA	
UK	Japan		
	Netherlands		
	New Zealand		
	Norway		
	Spain		
	Switzerland		
Disbursement			
Austria	Australia	Finland	New Zealand
Canada	Belgium	Portugal	Norway
Denmark	Italy	Sweden	
France		UK	
Germany		USA	
Greece			
Ireland			
Japan			
Netherlands			
Spain			
Switzerland			

Poverty in low-income countries

Not cointegrated or insignificant	Only / Mainly bidirectional **Poverty ↔ Aid**	Only / Mainly unidirectional **Poverty → Aid**	Only / Mainly unidirectional **Aid → Poverty**
Commitment			
Finland	Belgium	Australia	Austria
Ireland	Canada	France	Portugal
	Denmark	Germany	
	Greece	Italy	
	Norway	Netherland	
	Sweden	New Zealand	
		Portugal	
		Spain	
		Switzerland	
		UK	
		USA	
Disbursement			
Canada	Australia	Austria	Denmark
Finland	Greece	Belgium	
France	Netherland	Japan	
Germany	Switzerland	Norway	
Ireland		Portugal	
Italy		Spain	
New Zealand		Sweden	
UK		USA	

Poverty in middle-income countries

Not cointegrated or insignificant	Only / Mainly bidirectional **Poverty ↔ Aid**	Only / Mainly unidirectional **Poverty → Aid**	Only / Mainly unidirectional **Aid → Poverty**
Commitment			
Finland	Austria	Australia	Canada
Greece	Belgium	Denmark	France
Ireland	Spain	Germany	Norway
UK	Switzerland	Italy	Portugal
		Japan	
		Netherland	
		New Zealand	
		Norway	
		Portugal	
		Sweden	
		USA	
Disbursement			
Canada	Australia	Austria	Australia
Denmark	Netherland	Belgium	Portugal
Finland	Sweden	New Zealand	
France	Switzerland	Norway	
Germany		Portugal	
Greece		Spain	
Ireland		UK	
Italy		USA	
Japan			

Source: Author's analysis of data from OECD, Eurostat, US Census

Having said the above, beyond any similarities in terms of the direction of causality identified in Table 3, Table 2 highlights a critical difference between changing aid volumes in response to poverty changes in donor countries and low- and middle-income countries. In fact the analysis shows that all significant values of θ_2 and α_2 with regard to poverty rates and the poverty gap have a negative sign, identifying a negative relationship between aid and poverty in potential recipient countries. In other words, the amount of aid is not just unresponsive to the proportion of the national population that is below the poverty line or to the depth of the poverty burden of the poor. In fact, results show that the higher the proportion of the population that is below the poverty line, or the deeper the poverty gap, the lower the amount of aid received. This refers both to short- and long-term links between aid and poverty and applies to both commitment and disbursement. The only exception to what seems to be this general rule occurs when dealing with the actual number of individuals living below the poverty line, in which case the poverty-aid relationship is not the same in low-income as it is in middle-income countries. While an increase in poverty in low-income countries seems to be associated with an increase in the volume of aid, this is not the case in middle-income countries. This applies to both commitment and disbursement. To check whether the average income level of the poor population affects this relationship, two poverty lines – i.e. $1.25 a day and $2 a day – were considered and no significant difference was found. In other words, the national average income seems to make a difference, rather than the average income of the poor.

Italy is the only exception to the rule identified above. Here aid volumes fall with a rise of the number of poor people in low-income countries. This applies to both poverty lines, but only with reference to commitments, while no relationship is identified in the case of disbursements.

The values of θ_2 and α_2, whether negative – i.e. with reference to both poverty rates and poverty gaps – or positive – i.e. with reference to the number of poor people – are found to be generally greater when referring to donors' domestic poverty than to poverty in low- and middle-income countries, with very few exceptions. Interestingly, the main exceptions occur regarding the number of poor, with positive values in the case of low-income countries and negative values in the case of middle-income countries. This raises the issue of recent and ongoing changes in the poverty landscape. One aspect of such changes is the increasing number of poor people in middle-income countries, which is also due to various countries having recently risen from a low-income to a middle-income status, despite the high proportion of poor among their population. The different sign in the coefficients highlighted above seems to reflect both the donors' genuine intention to

target poverty and, at the same time, their current hesitation to target the poor in middle-income countries for assistance. After all, the functionality of a poverty-efficient approach to aid allocation is linked to the assumption of proper aid utilization by the recipient country. The increasing proportion of poor people in the populations of fragile and middle-income countries highlights how the "poor and stable" profile of the ideal aid recipient country is no longer valid. It can be argued that donors may find it harder to persuade the governments of middle-income and fragile countries to pursue *pro-poor* policy reforms and a poverty-oriented use of foreign assistance. This calls for a diversified – and as yet unclear – approach, and presents an important area for new research. In the meantime, any hesitation in facing this dilemma can only contribute to sharpening the contradiction on whose poverty actually drives donors' decisions about the volume of the aid that they grant.

Having considered the extent to which changes in poverty affect aid volumes, another factor that can help to shed light on the link between poverty and aid is the speed of adjustment, that is the speed at which donors adjust the volume of their aid to changes in poverty. Results show that average values of α_3 are generally significantly higher when dealing with domestic poverty, showing that donors react more rapidly to changes in poverty at home than to such changes in potential recipient countries. In the case of commitment, this applies to both poverty rates and the poverty gap,[9] while the difference is not significant when dealing with the number of poor. In the case of disbursement, also the difference between the average values of α_3 when dealing with the number of poor people in donors and middle-income countries becomes significant, and the one between the average values of α_3 when dealing with the number of poor in donors and low-income countries is just at the limit.[10]

In terms of individual donors, Belgium, Australia, Japan and Switzerland are among the fastest donors to adjust their commitments and disbursements to changes in poverty.[11] Belgium has the widest gap between the speed of adjustment to domestic and to foreign poverty, with the former regularly and abundantly greater than the latter, while Australia, Japan and Switzerland have the lowest gap between α_3 values.

At this point, the performance of individual donors is combined into a panel dataset in order to define some of the major common determinants of donors' decision-making about aid volumes. In view of the high variability among individual donors' performance, a random effect approach is

[9] In terms of poverty rates: Pr (T>t) = 0.00 for low-income and Pr (T>t) = 0.045 for middle-income countries. In terms of poverty gap: Pr (T>t) = 0.01 for low-income and Pr (T>t) = 0.05 for middle-income countries.

[10] Pr (T>t) = 0.00 and Pr (T>t) = 0.10 respectively.

[11] Although it is worth highlighting that Switzerland seems to be quick to adjust its commitments but less quick to adjust its disbursements.

expected to be appropriate. This has been confirmed through the Hausman test for all models estimated in Table 4 about aid commitment and in Table 5 about aid disbursement.

First, the lagged term relative to the volume of aid provided by each donor is in all cases highly significant, positive and among the greatest in size. This highlights how donors tend to regularly confirm their decisions over time. It is expected that this conservative approach contributes to increasing the predictability of aid supply.

The sign of the lagged term relative to the volume of other donors' aid, when significant, is regularly positive, showing that donors pay attention to their peers' decisions when making their own. This imitative attitude has led to talk of a 'peer effect' (Round and Odedokun, 2004) or 'herd instinct' (Cassen, 1986; Riddell, 2007) among donors. Such herding behaviour does not seem to happen for observable reasons, and it may contribute to increase aid volatility (Frot and Santiso, 2009). Contrary to Bertoli *et al*. (2008), who find the peer effect to be insignificant, our results provide broad support for the existence of such an effect, at least concerning aid volumes and with regard to both commitment and disbursement, to both low-income and middle-income countries, and to both poverty lines in recipient countries.

Coming now to the focus of this study, the results presented in Table 4 and Table 5 provide limited support for the theory of foreign aid Keynesianism. In fact, only a few models confirm the relevance of changes in donors' poverty as determinants of their aid volume. This result can be interpreted as the consequence of conflicting behaviours within the donor sample, as considered earlier through the time series analysis of individual donors. The fact that the analysis found evidence of foreign aid Keynesianism in only half of the donor sample considered suggests that such evidence may be harder to spot using a panel approach. In addition, the fact that all of the small number of models that capture a positive relationship between donors' poverty and aid volumes refer to the same measure of poverty – i.e. the number of poor people – recalls the different evolutions of poverty measures mentioned earlier. In other words, changes in poverty rates and in the poverty gap in the donor countries appear to be too small to establish a significant relationship with changes in foreign aid volumes.

In contrast, it is possible to establish a significant relationship between aid volumes and all poverty measures for low- and middle-income countries. All the coefficients are negative for both poverty rates and the poverty gap. This applies both in the case of commitment and disbursement. The coefficients are small, but highly significant. A quick and easy interpretation of such results would

be that increases in poverty rates and in the poverty gap in low- and middle-income countries lead donors to slightly reduce their aid commitment and disbursement. Ironically, this may not be too far from reality; however, fortunately, results about aid per poor help to clarify this picture. In this case the coefficients are regularly positive, meaning that an increase of the number of poor people is followed by an increase in the amount of aid committed and disbursed. But this applies only to low-income countries, as all coefficients for middle-income countries are negative. The latter recalls the case of poverty rates and of poverty gap, with the main difference that the coefficients are now much larger in size. This reflects a clear donor selectivity in favour of low-income countries.

Finally, with regard to the relevance of the institutional set-up in donor countries, neither the degree of democracy nor the political orientation of the leadership seem to be of much relevance to decisions on aid volumes. In particular, while the latter does not affect the decision process at all,[12] it is interesting to consider how a higher degree of democracy seems to be associated with a certain contraction in aid volumes in response to increases in the poverty of low- and middle-income countries, although this only seems to be relevant with regard to commitment and not to disbursement.

[12] This contradicts the opinion that as donors become more conservative their aid effort is likely to fall (Tingley, 2010).

Table 4 Determinants of aid commitment

Poverty line in donor countries	*40%*				*50%*				*60%*			
Poverty line in low-income and middle-income countries	*1.25$*		*2$*		*1.25$*		*2$*		*1.25$*		*2$*	
	Low	*Middle*	*Low*	*Middle*	*Low*	*Middle*	*Low*	*Middle*	*Low*	*Middle*	*Low*	*Middle*
						Number of poor						
aid_{t-1} from donor i	0.375 ***	0.358 ***	0.372 ***	0.352 ***	0.723 ***	0.698 ***	0.717 ***	0.700 ***	0.728 ***	0.703 ***	0.722 ***	0.709 ***
	(0.06)	(0.05)	(0.05)	(0.06)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
aid_{t-1} from other donors	0.428 ***	0.159	0.364 ***	0.153	0.197 **	-0.086	0.137 *	-0.093	0.177 **	-0.106	0.122	-0.107
	(0.08)	(0.12)	(0.09)	(0.13)	(0.08)	(0.11)	(0.08)	(0.13)	(0.07)	(0.11)	(0.08)	(0.12)
$poverty_{t-1}$ in donor country	0.094	0.031	0.061	0.107	0.109	0.049	0.061	0.182 **	0.187 *	0.120	0.141	0.253 **
	(0.08)	(0.08)	(0.08)	(0.07)	(0.10)	(0.09)	(0.10)	(0.08)	(0.11)	(0.11)	(0.11)	(0.10)
$poverty_{t-1}$ in low- & middle-income countries	0.201	-0.514 ***	0.292 **	-1.051 **	0.196	-0.540 ***	0.293 **	-1.037 **	0.175	-0.511 ***	0.262 **	-0.963 **
	(0.13)	(0.16)	(0.13)	(0.37)	(0.13)	(0.14)	(0.13)	(0.34)	(0.11)	(0.13)	(0.11)	(0.31)
$democracy_{t-1}$ in donor country	-0.111 *	-0.091	-0.112 *	-0.067	-0.067	-0.052	-0.070	-0.027	-0.068	-0.049	-0.067	-0.042
	(0.03)	(0.07)	(0.07)	(0.07)	(0.08)	(0.08)	(0.08)	(0.08)	(0.07)	(0.07)	(0.07)	(0.07)
$leftwing\ government_{t-1}$ in donor country	0.027	0.011	0.024	0.018	-0.013	-0.047	-0.018	-0.042	-0.031	-0.063	-0.035	-0.059
	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
$rightwing\ government_{t-1}$ in donor country	0.106	0.093	0.107	0.085	0.011	-0.015	0.010	-0.019	-0.014	-0.037	-0.014	-0.043
	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
constant	-4.420 **	14.525 **	-4.904 **	24.856 **	-5.302 **	14.326 **	-5.626 **	22.658 **	-6.283 **	12.504 **	-6.490 ***	19.800 **
	(2.15)	(5.22)	(1.93)	(9.42)	(2.07)	(5.05)	(1.91)	(8.81)	(2.14)	(4.83)	(2.02)	(8.21)
R^2 within	0.506	0.521	0.511	0.517	0.654	0.664	0.657	0.660	0.673	0.682	0.676	0.678
R^2 between	0.932	0.947	0.947	0.907	0.989	0.996	0.996	0.972	0.979	0.988	0.986	0.965
R^2 overall	0.890	0.885	0.893	0.877	0.957	0.961	0.961	0.944	0.950	0.957	0.955	0.937
N obs	300	300	300	300	432	432	432	432	460	460	460	460
σ_u	0.712	0.795	0.748	0.726	0.269	0.337	0.310	0.263	0.230	0.278	0.250	0.251
σ_ε	0.193	0.190	0.192	0.191	0.238	0.235	0.237	0.236	0.235	0.232	0.235	0.233
						Poverty rate						
aid_{t-1} from donor i	0.353 ***	0.367 ***	0.356 ***	0.360 ***	0.699 ***	0.708 ***	0.708 ***	0.704 ***	0.711 ***	0.714 ***	0.720 ***	0.710 ***
	(0.05)	(0.05)	(0.06)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
aid_{t-1} from other donors	0.166	0.277 **	0.250 **	0.198 *	-0.072	0.038	-0.005	-0.028	-0.088	0.024	-0.014	-0.042
	(0.12)	(0.10)	(0.12)	(0.11)	(0.12)	(0.09)	(0.12)	(0.10)	(0.11)	(0.09)	(0.11)	(0.10)
$poverty_{t-1}$ in donor country	0.011	0.010	0.013	0.009	0.016	0.002	0.016	0.002	0.012	0.005	0.012	0.005
	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
$poverty_{t-1}$ in low- & middle-income countries	-0.019 ***	-0.008 ***	-0.026 **	-0.009 ***	-0.019 ***	-0.008 ***	-0.027 **	-0.009 ***	-0.018 ***	-0.008 ***	-0.024 **	-0.009 ***
	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)
$democracy_{t-1}$ in donor country	-0.063	-0.110 *	-0.067	-0.105	-0.024	-0.069	-0.026	-0.063	-0.034	-0.059	-0.036	-0.055
	(0.07)	(0.07)	(0.07)	(0.07)	(0.08)	(0.08)	(0.08)	(0.08)	(0.07)	(0.07)	(0.07)	(0.07)
$leftwing\ government_{t-1}$ in donor country	0.007	0.016	0.010	0.016	-0.047	-0.034	-0.040	-0.034	-0.063	-0.050	-0.056	-0.051
	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.06)	(0.07)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
$rightwing\ government_{t-1}$ in donor country	0.076	0.101	0.080	0.103	-0.025	-0.002	-0.020	-0.002	-0.049	-0.026	-0.043	-0.026
	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
constant	5.120 **	3.275 **	5.129 **	4.466 **	4.510 **	2.864 **	4.760 **	3.844 **	4.610 **	2.814 **	4.598 **	3.799 **
	(1.76)	(1.37)	(2.12)	(1.53)	(1.78)	(1.43)	(2.13)	(1.59)	(1.66)	(1.27)	(1.95)	(1.43)
R^2 within	0.518	0.517	0.510	0.521	0.661	0.661	0.657	0.662	0.678	0.679	0.675	0.680
R^2 between	0.943	0.954	0.943	0.950	0.996	0.999	0.996	0.999	0.997	0.999	0.997	0.999
R^2 overall	0.872	0.877	0.873	0.874	0.958	0.961	0.958	0.961	0.958	0.960	0.959	0.960
N obs	300	300	300	300	432	432	432	432	460	460	460	460
σ_u	0.833	0.813	0.832	0.820	0.384	0.377	0.375	0.380	0.376	0.373	0.367	0.376
σ_ε	0.190	0.191	0.192	0.190	0.236	0.236	0.237	0.236	0.233	0.233	0.235	0.233
						Poverty gap						
aid_{t-1} from donor i	0.352 ***	0.370 ***	0.351 ***	0.366 ***	0.704 ***	0.704 ***	0.703 ***	0.699 ***	0.552 ***	0.566 ***	0.552 ***	0.560 ***
	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
aid_{t-1} from other donors	0.114	0.306 **	0.131	0.257 **	-0.075	0.070	-0.073	0.022	-0.083	0.146	-0.070	0.087
	(0.13)	(0.10)	(0.13)	(0.10)	(0.12)	(0.09)	(0.12)	(0.09)	(0.13)	(0.09)	(0.13)	(0.10)
$poverty_{t-1}$ in donor country	-0.003	-0.002	-0.003	-0.002	0.001	0.004	0.002	0.004	0.001	0.002	0.001	0.002
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
$poverty_{t-1}$ in low- & middle-income countries	-0.038 ***	-0.018 ***	-0.031 ***	-0.013 ***	-0.037 ***	-0.021 ***	-0.032 ***	-0.015 ***	-0.047 ***	-0.025 ***	-0.040 ***	-0.017 ***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.00)
$democracy_{t-1}$ in donor country	-0.040	-0.101	-0.043	-0.099	-0.039	-0.091	-0.040	-0.088	-0.023	-0.096	-0.026	-0.093
	(0.07)	(0.07)	(0.07)	(0.07)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
$leftwing\ government_{t-1}$ in donor country	-0.002	0.011	0.001	0.010	-0.048	-0.028	-0.049	-0.031	-0.024	-0.004	-0.023	-0.005
	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)	(0.06)	(0.07)	(0.06)	(0.08)	(0.08)	(0.08)	(0.08)
$rightwing\ government_{t-1}$ in donor country	0.061	0.095	0.066	0.096	-0.029	0.007	-0.028	0.006	0.032	0.074	0.037	0.075
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.07)	(0.06)	(0.08)	(0.08)	(0.08)	(0.08)
constant	5.429 ***	2.863 **	5.678 ***	3.560 **	4.494 **	2.556 *	4.929 **	3.251 **	5.904 **	2.889 **	6.333 ***	3.748 **
	(1.73)	(1.31)	(1.82)	(1.39)	(1.74)	(1.32)	(1.83)	(1.40)	(1.85)	(1.37)	(1.96)	(1.46)
R^2 within	0.519	0.513	0.518	0.517	0.662	0.665	0.662	0.666	0.586	0.585	0.585	0.588
R^2 between	0.953	0.963	0.950	0.960	0.999	0.998	0.999	0.998	0.998	0.995	0.998	0.995
R^2 overall	0.868	0.875	0.867	0.874	0.959	0.959	0.959	0.959	0.949	0.948	0.948	0.947
N obs	300	300	300	300	434	434	434	434	368	368	368	368
σ_u	0.846	0.821	0.849	0.824	0.372	0.369	0.373	0.373	0.558	0.546	0.558	0.551
σ_ε	0.190	0.191	0.190	0.190	0.238	0.237	0.238	0.236	0.223	0.224	0.224	0.223

significance: *** = 0.01, ** = 0.05, * = 0.1
standard errors in brackets
Source: Author's analysis of data from OECD, Eurostat, US Census

Table 5 Determinants of aid disbursement

Poverty line in donor countries	*40%*				*50%*				*60%*			
Poverty line in low-income and middle-income countries	*1.25$*		*2$*		*1.25$*		*2$*		*1.25$*		*2$*	
	Low	*Middle*	*Low*	*Middle*	*Low*	*Middle*	*Low*	*Middle*	*Low*	*Middle*	*Low*	*Middle*
						Number of poor						
aid_{t-1} from donor i	0.532 ***	0.514 ***	0.528 ***	0.507 ***	0.821 ***	0.798 ***	0.812 ***	0.807 ***	0.821 ***	0.798 ***	0.813 ***	0.808 ***
	(0.05)	(0.05)	(0.05)	(0.05)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
aid_{t-1} from other donors	0.304 ***	0.041	0.248 ***	0.016	0.096	-0.096	0.053	-0.117	0.102 *	-0.105	0.053	-0.100
	(0.07)	(0.10)	(0.08)	(0.10)	(0.06)	(0.09)	(0.07)	(0.10)	(0.06)	(0.08)	(0.06)	(0.09)
$poverty_{t-1}$ in donor country	0.070	-0.009	0.036	0.051	0.094	0.047	0.056	0.130 **	0.086	0.041	0.049	0.133 *
	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)	(0.07)	(0.07)	(0.06)	(0.08)	(0.08)	(0.08)	(0.07)
$poverty_{t-1}$ in low- & middle-income countries	0.107	-0.443 ***	0.206 **	-0.980 ***	0.127	-0.351 ***	0.203 **	-0.702 ***	0.150 *	-0.357 ***	0.217 ***	-0.651 ***
	(0.10)	(0.11)	(0.10)	(0.25)	(0.09)	(0.10)	(0.09)	(0.23)	(0.08)	(0.09)	(0.08)	(0.21)
$democracy_{t-1}$ in donor country	-0.064	-0.046	-0.067	-0.022	-0.046	-0.032	-0.048	-0.015	-0.065	-0.047	-0.063	-0.043
	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)
$leftwing\ government_{t-1}$ in donor country	0.006	-0.012	0.002	-0.007	-0.016	-0.041	-0.021	-0.038	-0.021	-0.046	-0.025	-0.041
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
$rightwing\ government_{t-1}$ in donor country	0.043	0.031	0.045	0.023	-0.010	-0.029	-0.011	-0.031	-0.019	-0.038	-0.021	-0.040
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
constant	-2.386	13.395 ***	-3.096 **	24.219 ***	-3.480 **	9.497 **	-3.747 ***	15.679 **	-3.700 **	9.970 **	-3.766 **	14.547 **
	(1.67)	(3.90)	(1.49)	(6.60)	(1.53)	(3.64)	(1.41)	(5.97)	(1.56)	(3.49)	(1.46)	(5.60)
R^2 within	0.578	0.598	0.583	0.599	0.761	0.767	0.763	0.765	0.776	0.781	0.778	0.779
R^2 between	0.973	0.988	0.984	0.973	0.993	0.997	0.997	0.986	0.995	0.998	0.998	0.989
R^2 overall	0.947	0.949	0.953	0.947	0.975	0.978	0.978	0.969	0.977	0.979	0.979	0.972
N obs	300	300	300	300	445	445	445	445	473	473	473	473
σ_u	0.510	0.608	0.546	0.556	0.156	0.201	0.181	0.166	0.154	0.205	0.185	0.155
σ_ε	0.150	0.146	0.149	0.146	0.176	0.174	0.176	0.175	0.172	0.170	0.172	0.171
						Poverty rate						
aid_{t-1} from donor i	0.504 ***	0.523 ***	0.505 ***	0.516 ***	0.809 ***	0.804 ***	0.814 ***	0.798 ***	0.811 ***	0.805 ***	0.817 ***	0.800 ***
	(0.05)	(0.05)	(0.05)	(0.05)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
aid_{t-1} from other donors	0.045	0.164 *	0.107	0.093	-0.078	-0.013	-0.036	-0.076	-0.071	-0.016	-0.027	-0.080
	(0.10)	(0.09)	(0.10)	(0.09)	(0.09)	(0.08)	(0.09)	(0.08)	(0.09)	(0.07)	(0.08)	(0.08)
$poverty_{t-1}$ in donor country	0.002	0.004	0.004	0.002	0.008	-0.001	0.009	-0.002	0.003	-0.002	0.004	-0.002
	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
$poverty_{t-1}$ in low- & middle-income countries	-0.017 ***	-0.006 ***	-0.024 ***	-0.007 ***	-0.012 ***	-0.006 ***	-0.018 **	-0.007 ***	-0.012 ***	-0.006 ***	-0.016 ***	-0.007 ***
	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)
$democracy_{t-1}$ in donor country	-0.022	-0.064	-0.025	-0.059	-0.013	-0.044	-0.015	-0.040	-0.038	-0.056	-0.040	-0.052
	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)
$leftwing\ government_{t-1}$ in donor country	-0.013	-0.005	-0.011	-0.005	-0.040	-0.033	-0.035	-0.035	-0.042	-0.037	-0.038	-0.039
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)
$rightwing\ government_{t-1}$ in donor country	0.019	0.041	0.023	0.042	-0.034	-0.021	-0.031	-0.022	-0.042	-0.030	-0.038	-0.031
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)
constant	4.760 ***	2.841	5.048 ***	3.877 ***	3.225 **	2.370 **	3.447 **	3.288 **	3.361 ***	2.529 **	3.447 **	3.463 ***
	(1.32)	(1.12)	(1.55)	(1.24)	(1.30)	(1.11)	(1.53)	(1.23)	(1.21)	(0.99)	(1.41)	(1.11)
R^2 within	0.600	0.590	0.593	0.595	0.764	0.765	0.762	0.766	0.778	0.780	0.776	0.781
R^2 between	0.985	0.988	0.984	0.987	0.999	0.999	0.999	0.999	1.000	0.999	1.000	0.999
R^2 overall	0.949	0.952	0.949	0.951	0.979	0.979	0.979	0.979	0.979	0.979	0.979	0.979
N obs	300	300	300	300	445	445	445	445	473	473	473	473
σ_u	0.613	0.586	0.615	0.594	0.229	0.240	0.225	0.245	0.228	0.238	0.223	0.243
σ_ε	0.146	0.148	0.147	0.147	0.175	0.175	0.176	0.174	0.171	0.171	0.172	0.170
						Poverty gap						
aid_{t-1} from donor i	0.504 ***	0.527 ***	0.503 ***	0.523 ***	0.813 ***	0.800 ***	0.810 ***	0.794 ***	0.701 ***	0.680 ***	0.698 ***	0.676 ***
	(0.05)	(0.05)	(0.05)	(0.05)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
aid_{t-1} from other donors	0.014	0.204 **	0.033	0.159 *	-0.074	0.016	-0.073	-0.025	-0.056	0.074	-0.045	0.029
	(0.10)	(0.08)	(0.10)	(0.09)	(0.09)	(0.07)	(0.09)	(0.08)	(0.10)	(0.07)	(0.10)	(0.08)
$poverty_{t-1}$ in donor country	0.000	0.001	0.000	0.001	0.000	0.002	0.000	0.002	-0.006	-0.005	-0.006	-0.005
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
$poverty_{t-1}$ in low- & middle-income countries	-0.032 ***	-0.013 ***	-0.027 ***	-0.010 ***	-0.023 ***	-0.014 ***	-0.020 ***	-0.010 ***	-0.027 ***	-0.017 ***	-0.023 ***	-0.012 ***
	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)
$democracy_{t-1}$ in donor country	-0.014	-0.067	-0.018	-0.066	-0.018	-0.055	-0.019	-0.052	-0.002	-0.052	-0.004	-0.048
	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
$leftwing\ government_{t-1}$ in donor country	-0.016	-0.005	-0.015	-0.005	-0.039	-0.029	-0.040	-0.032	-0.028	-0.013	-0.027	-0.014
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.05)
$rightwing\ government_{t-1}$ in donor country	0.012	0.041	0.016	0.041	-0.037	-0.017	-0.036	-0.018	-0.008	0.022	-0.005	0.021
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)
constant	4.834 ***	2.320 **	5.000 ***	2.934 **	3.098 **	2.060 **	3.387 **	2.629 **	3.862 **	2.489 **	4.105 **	3.118 **
	(1.30)	(1.08)	(1.36)	(1.14)	(1.26)	(1.03)	(1.33)	(1.08)	(1.31)	(1.04)	(1.37)	(1.10)
R^2 within	0.603	0.586	0.600	0.590	0.764	0.766	0.764	0.767	0.684	0.686	0.684	0.688
R^2 between	0.986	0.990	0.986	0.989	1.000	0.999	1.000	0.999	0.998	0.998	0.998	0.998
R^2 overall	0.950	0.953	0.949	0.952	0.978	0.978	0.978	0.978	0.975	0.973	0.974	0.973
N obs	300	300	300	300	447	447	447	447	378	378	378	378
σ_u	0.613	0.583	0.616	0.586	0.223	0.238	0.226	0.243	0.362	0.389	0.366	0.393
σ_ε	0.146	0.149	0.146	0.148	0.175	0.175	0.175	0.174	0.163	0.162	0.163	0.162

significance: *** = 0.01, ** = 0.05, * = 0.1
standard errors in brackets
Source: Author's analysis of data from OECD, Eurostat, US Census

4. CONCLUSIONS

This study has investigated the relevance of poverty in determining aid volumes and in particular whether donors' decisions about the volume of the aid they grant are more reactive to domestic poverty than to poverty in low- and middle-income countries.

In general, the results show that the relationship between poverty and aid is stronger when dealing with commitment than with disbursement. This was expected since the former seems to reflect the donors' intent better.

Along the same lines, in all cases this relationship seems to be stronger in the short run.

This study finds that domestic poverty plays a remarkable role in influencing the volume of donors' foreign aid in half of the donor sample considered, supporting the theory of foreign aid Keynesianism. In contrast, poverty in the developing world appears to be less relevant for such a purpose. In fact, volumes of foreign aid react more strongly and faster to poverty changes in donor countries rather than in potential recipient countries.

Interestingly, among the various poverty measures considered, aid volumes seem to better reflect changes in the number of poor people than changes in poverty rates or poverty gaps. In other words, the size of the poor population matters, while other important measures, such as the proportion of the population living in poverty and how deep in poverty the poor actually are, seem to influence donors' decisions less.

Donors' attitudes towards poverty in low- and middle-income countries differ. While a poverty increase in the former is generally associated with an increase in the volume of aid, this is not the case for the latter. Therefore, while donors' intention to target poverty is acknowledged, their hesitation to target the poor in middle-income countries with assistance is highlighted.

Looking beyond poverty, a few other factors involved in decision-making about aid volumes have been considered. Interestingly, donors' tendency to maintain a conservative approach over time is combined with a certain imitative attitude of relevant peers' behaviour. While the former helps to increase the predictability of the aid supply, the latter may contribute to increasing its volatility.

Finally, in this study the institutional set-up in donor countries seems to be irrelevant to decisions on aid volumes.

The findings from this study lead to the consideration that, although poverty eradication is just one of various goals that the international community aims at through the provision of aid, it is reasonable to assume that aid effectiveness in tackling poverty can be raised by having a clear view in mind of which poverty to target.

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